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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/134,897	08/17/98	TANAKA T	0039-6348-2S

022850 MM41/1120
OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON VA 22202

EXAMINER	
TRAN, A	
ART UNIT	**PAPER NUMBER**
2824	

DATE MAILED: 11/20/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/134,897	TOMOHARU TANAKA et al.
Examiner	**Group Art Unit**
Andrew Q. Tran	2824

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-150* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-150* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☒ received in Application No. (Series Code/Serial Number) *08/308,534*.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

The original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178.

This application is objected to under 37 CFR 1.172(a) as lacking the written consent of all assignees owning an undivided interest in the patent. The consent of the assignee must be in compliance with 37 CFR 1.172. See MPEP § 1410.01.

A proper assent of the assignee in compliance with 37 CFR 1.172 and 3.73 is required in reply to this Office action.

The drawings are objected to because :

In Figures 23 and 29, the abscissa axis should be relabeled as --WRITE TIME (Logarithmic scale)--, accordingly. In Figure 32, a connection should be shown between "Write control signal generation circuit" 9 and the bottom "Word line drive circuit" 7.

Correction is required.

Claims 120 and 139 are objected to because of the following informalities:

In claim 120, lines 24 and 29, "to" should be deleted. In claim 139, line 16, "to" should be deleted.

Appropriate correction is required.

The reissue oath/declaration filed with this application is defective (see 37 CFR 1.175 and MPEP § 1414) because of the following:

1) It contains an incorrect grant date (May 21, 1996) of U.S. Letters Patent 5,570,315 which seeks to reissue. The correct grant date should be October 29, 1996.

2) It fails to contain a statement that all errors which are being corrected in the reissue application up to the time of filing of the oath/declaration arose without any deceptive intention on the part of the applicant.

Claims 1-150 are rejected as being based upon a defective reissue declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the declaration is set forth in the discussion above in this Office action.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by

a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-150 are rejected under the judicially created doctrine of double patenting over claims 1-20 of U. S. Patent No. 5,521,865 to Ohuchi et al. on May 28, 1996 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a multi-value semiconductor memory device having a write-verify control circuit.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

The following is a quotation of 35 U.S.C. 251 :

> Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less then he had a right to claim in the patent, the Commissioner shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.
>
> The Commissioner may issue several reissued patents for distinct and separate parts of the thing patented, upon demand of the applicant, and upon payment of the required fee for a reissue for each of such reissued patents.
>
> The provisions of this title relating to applications for patent shall be applicable to applications for reissue of a patent, except that application for reissue may be made and sworn to by the assignee of the entire interest if the application does not seek to enlarge the scope of the claims of the original patent.
>
> No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

Claims 130-132, 136-138, 141-142 and 144-149 are rejected under 35 U.S.C. 251 for lack of defect in the original patent and lack of error in obtaining the original patent. See MPEP 1450 and *In re Weiler*, 790 F.2d 1576, 229 USPQ 673 (Fed. Cir. 1986).

MPEP § 1450 states that :

> [I]f the reissue application presents claims to species not claimed in the original patent, election of species should not be required, but the added claims may be rejected, where appropriate, for lack of defect in the original patent and lack of error in obtaining the original patent .....

Furthermore, it has been held by the Court in *In re Weiler* at 676 that :

> [§]251 authorizes reissue for "the" invention disclosed in the original patent, not for just "any" and "every" invention for which one may find some support in the disclosure of the original patent.

and,

> [i]t is difficult to find error in the failure to claim those [claims] ignored on the sole basis that they were disclosed. To so hold would render meaningless the statutory requirement that an appellant point out and distinctly claim subject matter he regards as his invention. 35 U.S.C. § 112, 2d ¶.

Claims 130-132, 136-138, 141-142 and 144-149 are not drawn to the original species elected in the original patent; ie. species of Group A/ of Figures 1 and 3, which claimed a multi-level non-volatile semiconductor memory device, an apparatus claim. In other words, these method claims, newly submitted, would have been held patentably distinct from the apparatus claims 1-119 of the original patent, had they been earlier presented in the original patent. These method claims, as recited, can be practiced with another materially different product, such as other multi-value nonvolatile semiconductor memory device known in the art.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same

> and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 121-129, 134-135 and 140 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant specification fails to adequately describe the "binary data latch circuits", as recited in claim 121, lines 12-13; in claim 123, line 15; in claim 125, line 15; in claim 127, line 16; in claim 129, lines 15-16; in claim 134, lines 2-3; and in claim 140, lines 2-3.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 120-129, 133-135, 139-140, 143 and 150 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 120, line 12, the term "a program circuit" is indefinite because it is unclear what is meant by said term.

In claim 121, line 3, the term "a plurality of data transfer lines" is indefinite because it is unclear what is meant by said term.

Claim 123 is incomplete as failing to recite the interconnections between claimed elements; ie. "a data conversion circuit" (claim 123, line 11) is not recited to be connected to other elements of the multi-level non-volatile semiconductor memory structure. In general, it is noted that phrases such as "for converting plural binary input data into plural internal write binary data" (claim 123, lines 11-13) are merely functional language which serve little if not nothing to connect the claimed features. It is suggested to use terms such as --coupled to-- to recite said interconnections. In claim 123, line 3, the term "a plurality of data transfer lines" is indefinite because it is unclear what is meant by said term.

Claim 125 is incomplete as failing to recite the interconnections between claimed elements; ie. "a data conversion circuit" (claim 125, line 11) is not connected to the rest of the memory structure. In claim 125, line 3, the term "a plurality of data transfer lines" is indefinite because it is unclear what is meant by said term.

Claim 127 is incomplete as failing to recite the interconnections between claimed features; ie. "a data conversion circuit" (claim 127, line 11) is not connected to the rest of the memory structure. In claim 127, line 3, the term "a plurality of data transfer lines" is indefinite because it is unclear what is meant by said term.

Claim 129 is incomplete as failing to recite the interconnections between claimed elements; ie. "a word line selector" (claim 129, line 12), "a data latch circuit" (claim 129, line 14), "a first bit line bias circuit" (claim 129, line 17) and "a second bit line bias circuit" (claim 129, line 20) are not connected to one other and to other claimed elements. It is suggested to use terms such as --coupled to-- to recite said interconnections. In claim 129, lines 17 and 20, the terms "a first bit line bias circuit" and "a second bit line bias circuit" are indefinite because it is unclear what are meant by said terms.

In claim 133, line 12, the term "a read circuit" is indefinite because it is unclear what is meant by said term.

In claim 139, line 12, the term "a verify circuit" is indefinite because it is unclear what is meant by said term.

Claim 143 is incomplete as failing to recite the interconnections between claimed features; ie. "a word line selector" (claim 143, line 12) and "a bit line precharge circuit" (claim 143, penultimate line) are not connected to the rest of the memory structure. In claim 143, penultimate line, the term "a bit line precharge circuit" is indefinite because it is unclear what is meant by said term.

In claim 150, line 12, the term "a verify circuit" is indefinite because it is unclear what is meant by said term.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

Claims 1-16, 19-32, 35-48, 51-64, 67-82, 85-100, 103-116 and 119 are rejected under 35 U.S.C. 102(e) as being anticipated by Mehrotra et al. (US 5,172,338 hereinafter referred to as Mehrotra et al. '338). See for example, Figures 3, 5, 9B, 14, 15, 16, 17.

Note also the functional language asserted by Applicant in said Reissue declaration, page 2, last paragraph (for example, functional language in claims 1 and 51).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takeuchi et al. (US 5,781,478) describes a nonvolatile semiconductor memory device with a plurality of select MOS transistors.

Takeuchi et al. (US 5,920,507) describes a nonvolatile semiconductor memory device having a plurality of data latch circuits and a batch verify circuit.

Takeuchi et al. (US 6,069,823) describes a nonvolatile semiconductor memory device having a plurality of data latch circuits and a write verify circuit.

Takeuchi et al. (US 6,147,911) describes a multi-value nonvolatile semiconductor memory device having a plurality of data latch circuits, a write verify circuit and an "i" data batch verify circuit.

Papers related to this application may be submitted to Technology Center 2800, Group 2810 by facsimile transmission. Papers should be faxed to Group 2810 via the Fax Center. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (October 19, 1988). The Fax Center number is (703) 308-7722 or (703) 308-7724.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Q. Tran whose telephone number is (703) 305-3495.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Andrew Q. Tran
November 20, 2000

ANDREW Q. TRAN
PRIMARY EXAMINER